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IMPACT OF INTELLECTUAL CAPITAL ON THE FINANCIAL PERFORMANCE OF INDIAN PHARMACEUTICAL COMPANIES

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Abstract

The objective of this study is to discover the influence of Intellectual Capital (IC) on financial performance of sample pharmaceutical firms in India. Quantitative data of Indian pharmaceutical firms were collected from the audited annual reports for the period from 2007 to 2017. Public (2004) IC model was employed to measure the intellectual capital. Return on Assets, Returnon Equity and Return on Sales were used to measure the financial performance. The study found significant and positive impact of IC on financial performance. The findings of the study would be useful for corporate directors and regulators as well as policy makers to invest in IC, thus leading to higher financial performance. This study is a pioneering attempt to measure the relationship between IC and corporate financial performance in Indian pharmaceutical sector.

Keywords: *Intellectual Capital; Financial Performance; Correlation; Standardized Regression Pharmaceutical Sector.*

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1. Introduction

In the emerging economy, the valuation and assessment system of business firms need to be changed in accordance with changing environment. The key factors of value creation and productivity of an organization have migrated from its tangible assets (capital, plant and machinery) to intangible assets (knowledge of employees),as the employees are professionally sound and technically proficient. The vital source of value is the human brain and its tacit and explicit revelation **(SriRangaVishnu &Vijaya Kumar Gupta, 2014).**

It is generally observed that the market value of stock, issued by many companies,has been higher than the replacement cost of tangible inputs **(Seveiby, 1997; Dumay, 2009).** An acceptable fact for this overvaluation is the existence of intellectual capital in the assets of the organizations, which are not generally reflected in their accounting report **(Brennan &Connel, 2000).** The intangible values have been ignored in the annual financial statement of almost all firms **(Ming-Chin Chen et al., 2005).**

It is to be noted, from the earlier literature, the connective nexus between brand name, corporate regulations, intellectual property, organizational activities, inventions and patents and they form the present intellectual capital, which does possess vital place in the economic wealth creation of corporates. Hence it is pertinent for the companies to scale and maintain their intellectual capital to manage the competitive advantage **(Bhartesh & Bandopadyay, 2005).**

The pharmaceutical industry generally secludes itself with its prudent and stringent characters. It is being considered as the vibrant industry, with appropriate emphasis on quality of human capital, innovation of products and processes, research and development activities and intellectual proprietorship. All these features present the pharmaceutical industry a challenging proposition of research on intellectual capital. In India, the pharmaceutical industry manifests similar attributes, with appreciable growth in basic infrastructure, quality of products and technological improvement. It is important to note that situations such as rolling out of advanced manufacturing technologies and advancement of low cost technologies paired with high quality outputs,form the main strength of this industry. Nowadays, an increasing number of pharmaceutical companies are in the stage of seeking permission for drugs from Regulatory Bodies abroad. All these advancements have taken the Indian pharmaceutical industry to be the pioneer of major pharmaceutical players in the Globe (**Sriranga Vishnu &Vijayakumar Kumar Gupta, 2014)**.

1.1 Measurement of Intellectual Capital

Intellectual capital measurement is necessary in respect of its management and reporting the value of the firm. The activists and theorists have suggested multiple methods to scale intellectual capital and its components. A compilation of 42 such models,has been categorized into four broad classifications, namely,Direct Intellectual Capital Method (DICM); Market Capitalization Methods (MCM); Return on Assets Method (ROAM); and Balanced Scorecard Methods (BSCM). Among them, MCM and ROA require consolidated inputs to measure intellectual capital at the organizational level. But DICM and BSCM utilize individual (component – wise) inputs, for the evaluation of intellectual capital **(Sveiby, 2010).**

The well known model, namely, Return On Assets Model, studies the influence of intellectual

capital on corporate performance.Besides, the Value Added Intellectual Coefficient Method (VAIC™) was proposed by Ante Pulic in 1993 **(Pulic, 2004)**and this model measures efficiencies of intellectual capital and physical and financial capital of an entity. More specifically, it values HCE, SCE and CEE. The calculation of VAIC™ is based on widely available data, that make it easy to utilize. It enables quantitative and modernized measurement, thus facilitating cross-sectional analysis. It is a reasonable model seeking no subjective grading or weightage **(Abdulsalam et al., 2011).** The VAIC™ method facilitates factual investigation of this research. This study examines intellectual capital-linked performance of large pharmaceutical companies in India.

2) Review of Literature

The intellectual capital is the sum of the hidden assets of the company,which are not fully captured on the balance sheet **(Roos** and **Roos, 1997).** Defining intellectual capital faces difficulties. **Edvinson & Sullivan (1996), Stewart (1997), Bontis et al., (1998)** described intellectual capital as something related to knowledge, wealth creation and intangibility. There is significant relationship between human capital efficiency and financial performance of the firm (**Maditinos et al., 2011).** Multiple components of intellectual capital were identified by **Brooking (1996), Sveiby (1997)** and **Edvinson et al., (1997).** However, the concept (intellect-creating activities)developed by **Seetharaman et al., (2004)**has been employed in many studies. The intellectual capital is divided into broad components such as human capital, structural capital and capital employed and relational capital.

2.1) Intellectual Capital and Corporate Performances

The existing studies have been carried out, across many service industries, testing the effect of intellectual capital on business performance. The recommended industries are finance industries **(Young et al, 2009; Kamath, 2010 and Abdulsalam et al., 2011),** software industries **(Gan** and **Saleh, 2008, Chang** and **Hsieh, 2011)** and pharmaceutical industries **(Maji, S. G., & Goswami, M. 2015; Kamath, 2008; Chen, Cheng et al., 2005; Karam Pal** and **Sushila Soriya, 2012).** The research on intellectual capital and business performance transcends several geographical boundaries, compraising USA, Australia, Canada, India, Malaysia, Japan, Greece, Pakistan, UK, Taiwan and Netherland. The research studies by **Aparna Bhatia & Kushpoo Aggarwal, 2015; Clarke et al., 2011; Mehralian et al., 2012;** etc.**)** identified relationships between intellectual capital and business performance (**Firer & Williams, 2003; Gruian, 2011).** Besides, **Pina Puntillo, (2009)** investigated the relationship between the value creation efficiency and firms' market valuation and financial performance. The results did not show any strong association between the studied variables (except for the relation between components of VAIC and the CEE) and the different measures of the firm's performance. **Rubina Aroze, (2011)** identified the influence of intellectual capital (IC) on the financial performance of 13 private commercial banks (PCB_s) of Bangladesh, listed with Dhaka Stock Exchange Limited. It is found that there was statistically significant correlation between the IC efficiency scores and financial performance indicators.In addition, there was statistically significant influence of IC on the financial indicators.

2.2) Intellectual Capital and Corporate Performance in Pharmaceutical Industry

The pharmaceutical industry is amenable to research on intellectual capital, due to its knowledge –related features. For valuation of

intellectual capital, questionnaire survey method and accounting data-based models were employed in Iran **(Mehralian et al., 2012)**. The researchers postulated VAIC™ method and found that the components of intellectual capital recorded positive relationship with just one performance variable, namely, return on assets. The main factor impacting corporate performance is physical capital and not intellectual capital. VAIC™, employed by **Bharathi (2008),** found that there was in significant influence of VAIC™ on performance of entities. A study by **Bollen et al., (2005),** reported that the components of intellectual capital exercised positive and significant influence on the business performance. A study by **Chen et al., (2010)** found significant and positive nexus between intellectual capital and corporate performance in US based healthcare industry. A research study by **Tan et al (2007),** employing data from 150 Singapore companies, asserted a positive relationship between the proficiency of intellectual capital and financial performance measures.

2.3) Research on Intellectual Capital in India

In India, the study on intellectual capital is relatively a new phenomenon. However, earlier studies focused on knowledge management **(Thaker, 2001; Swamy, 2004),** human capital management **(Choudhury et al., 2010),** strategic environment and intellectual capital **(Deol, 2009),** innovation management **(Narvekar et al., 2006),** measurement of intellectual capital **(Kannan &Aulbur, 2004),** intellectual capital reporting and disclosure **(Bharathi, 2008; Sing et al., 2011 Bhatia & Aggarwal, 2015)** and intellectual capital and performance of firms **(Kamath, 2007, 2008** and **2010; Karam Pal** and **SushilaSoriya (2012);Ghosh** and **Mondal, 2009, Murale, 2010).** Earlier studies, employing the VAIC™ model, found mixed results.

The essential of intellectual capital varies from firm to firm, depending on the nature of industry. In India, only a limited number of research studies have been conducted to measure the performance of intellectual capital, especially financial reporting of intellectual capital on the firm's profitability and productivity of pharmaceutical sectors **(Karam Pal & Sushila Soriya, 2011).** The research in Indian sectors presented mixed findings. Intellectual capital of a company as well as the individual components of intellectual capital have to be integrated **(Sriranga Vishnu & Vijaya Kumar Kupta, 2014).** Organizations have to invest significant resources to develop their intellectual capital and there is a strategic need to enhance select types of innovative capabilities **(Tushman& O'Reilly, 1997); (Mohan Subramaniam, et al, 2005)**.

3) Statement of the Problem

The concept of intellectual capital is a vital tool for assessing the consistent absorption of knowledge of employees by the organization. In the present situation, majority of corporates do not disclose intellectual capital, in their financial reporting for better competiveness of the business.The problem lies with Intellectual Capital Measures. Firstly, the required information is unavailable to those outside the firm. Secondly, the information is often qualitative and based on judgments.Finally, the information cannot be translated into quantitative money values. Under these circumstances, Research in Intellectual Capital helps to understand the roots of a company's value and the measurement of the hidden factors that underlie the visible company. **Bharathi Kamath, G. (2008), Kannan, G., & Aulbur, W. G. (2004). Ghosh, S., & Mondal, A. (2009), (Choudhury, J, 2010) (Sushila Soriya** and **Karam Pal Narwal, 2012), (Vishnu Sriranga** and **Kumar Gupta Vijay, 2014)** empirically analyzed the

relationship between a relevant measure of Intellectual Capital and commonly used measures like productivity, profitability and market evaluation in India, using NSE and BSE listed companies. However, the different dimensions of IC have not yet been measured and taken into consideration for measuring their impact on financial performance of pharmaceutical companies in India. Hence this study was undertaken.

4) Significance of the Study

The research on Intellectual Capital in India is significant for a number of reasons. Firstly, India is an emerging country, that is moving towards a knowledge-based economy. The level of voluntary IC disclosure, in annual reports by Indian firms, is low. In India, only few studies investigated the link between Intellectual Capital and firm performance. Thirdly, this study fully used Indian data in the present context. Finally, the availability of published financial data for Indian Pharmaceutical Industry, from a number of databases provided the impetus for this study.

5) Objectives of the Study

The main objective of this study was to analyze the impact of intellectual capital on the performance of sample pharmaceutical companies in India.

6) Hypotheses of the Study

Based on the objective of the study, the following null hypotheses were developed and tested in this study.

NH 1: There is no relationship between intellectual capital performance and the financial performance of sample pharmaceutical firms.

NH 2 : There is no impact of intellectual capital performance on the financial performance of sample pharmaceutical firms.

7) Methodology of the Study

7.1) Sample Selection

As stated earlier, the primary aim of this study was to examine the impact of intellectual capital on the financial performance of sample pharmaceutical firms in India. It was proposed to cover all the firms, coming under pharmaceutical industry in India, as on 31.12.2017 but the required data were not available for all the firms. The final selection of sample comprises was restricted to only **389** out of **776** companies in India.

7.2) Sources and Collection of Data

The sample data for this study were obtained from the audited and published annual reports of sample companies, as available at Prowess Database, maintained by the Center for Monitoring Indian Economy. The other required data were collected from reputed Websites, published research reports and journals.

7.3) Study Period

The present study covered a period from 01.01.2007 to 31.12.2017.

7.4.a) Tools to be used

The present study analyzed the impact of intellectual capital on the value of firms in India, by using the following tools.

i) Descriptive Statistics

In the present study, the values for mean and standard deviation (SD) were drawn through descriptive statistics. The nature of the variables in terms of average was arrived at by the result of mean and the percentage of variation in the mean value, using the SD.

ii) Standardized Regression

The major purpose of this present study was to measure the direction of correlation between

the intellectual capital and financial performance of the sample firm. For this purpose, the regression coefficient was used to explain the value of changes in one variable by another variable.

7.4. b) Tools to be used

Eviews 7was used for analyzing the data.

7.4.c) Variables and Empirical models.

i) Dependent Variables

For the purpose of this study, the measurement of firm performance was considered a dependent variable in the regression equation **(Hoskisson et al., 1993; Bharathi, 2008; Junior et al., 2010; Pal &Soriya, 2012; Phusavat et al., 2011**and **Irina Berk, 2007).** The performance of firm was measured, using the two ratios, namely, ROA (Return on Assets), and ROE (Return on Equity). In addition to this, ROS (Return on Sales) was also used to measure the firm performance.

ii) Independent Variables

In order to measure the relationship between intellectual capital and firm performance, the following equations were used.

VAIC = ICE + CEE

ICE = HCE + SCE

Where,

VAIC= **V**alue **A**dded **I**ntellectual **C**oefficient

ICE=**I**ntellectual **C**apital **E**fficiency

CEE= **C**apital **E**mployed **E**fficiency

HCE= **H**uman **C**apital **E**fficiency

SCE= **S**tructural **C**apital **E**fficiency

a) Value Added (VA)

According to **Biserka Komnenic** and **Dragana Pokrajic, 2012),** VAIC could be used as proxy of intellectual capital, which influences the firms' financial performance. The Value Added was used to compute the components of Value Added Intellectual Coefficient (VAIC).

- **Value Added (VA) = OP+W+D+A**

Where,

OP = Operating Profit

W = Salaries of Employees;

D = Depreciation

A = Amortization

The **C**apital **E**mployed (**CE**), **H**uman **C**apital (**HC**) and **S**tructural **C**apital (**SC**) were calculated as below.

b) CE=Total Assets-Intangible Assets

c) HC=Compensation to Employees

d) SC=Value Added-Human Capital

Capital Employed is an alternative indication of tangible resources. The Human Capital is an indirect measure of intangible resources.

f) Capital Employed Efficiency (VACA) = VA is divided by Capital Employed

g) Human Capital Efficiency (VAHU) = VA is divided by Human Capital

h) Structural Capital Efficiency (STVA) = Structural Capital is divided by VA

Value added intellectual coefficient is widely used in the assessment of intellectual capital **(Fourati & Aers, 2013; Joshi, Cahill Sidhu, & Kansal, 2013).**

i) Value Added Intellectual Coefficient (VAIC) Model

Pulic (1998) developed the method of Value Added Intellectual Coefficient (VAIC™) and **Manfred Boremann (1999)** improved the model further. **Pulic's** methodology concentrates on value-adding, value-adders, and

value-adding procedures. VAIC™ took into account the whole company as a dynamic system.

ii) Extended Value Added Intellectual Capital (E-VAIC) Model

Sriranga Vishnu & Vijaya Kumar Kupta (2014) developed E-VAIC model using, the Pulic model.

8. 1. Descriptive Statistics for the IC and Profitability of Sample Firms.

Table – 1 shows the results of descriptive statistics, for sample variables of pharmaceutical companies, during the study period from 1st January 2007 to 31st December 2017. For the purpose of this study, the independent variables included HCE, SCE and CEE while dependent variables covered ROA, ROE and ROS. Besides, the study also used one control variable, namely, Firm Size. It is clearly evident from **Table-1**that an independent variable, namely, Structural Capital Efficiency (SEE) scored the lowest mean value of 0.16178, amongthe six sample variables while Return on Sales (ROS) gained the highest mean value of 67.28235 during the study period. In respect of median value, the Capital Employed Efficiency (CEE) earned a low value at 0.19576 but ROS secured high value at 30.67749 during the study period. Regarding minimum value, Return On Equity (ROE) recorded the low value (minimum) at -99.743 but a control variable, namely, the firm size earned the highest value of 6.234 during the study period. According to the analysis of descriptive statistics, the Return on Sales (ROS) enjoyed a value of 316.5283, which was considered as the highest value under maximum but the Structural Capital Efficiency (SCE) achieved a low value of 0.5152 during the study period. The analysis of standard deviation clearly shows that ROS recorded the highest value of 59.55632 while Capital Employed Efficiency (CCE) yielded a low value of 0.16334 during the study period. However, it is interesting to know that during the study period, Return On Sales (ROS) remarkably achieved the highest value, in all fields of descriptive statistics, used in this study.

8.2. Impact of Intellectual Capital on the Profitability of Pharmaceutical Industry

The impact of intellectual capital on the performance of pharmaceutical firms in India,was analyzed as follows. The relationship of variables was tested, using the regression analysis.

a) Regression Coefficient for the ROA and IC components for Sample Indian Pharmaceutical Firms

b) Regression Coefficient for the ROE and IC components for Sample Indian Pharmaceutical Firms.

c) Regression Coefficient for the ROS and IC components for Sample Indian Pharmaceutical Firms.

8.2. a) Regression Coefficient for the ROA and IC components for Sample Indian Pharmaceutical Firms

The results of regression, showing relationship between ROA and IC components, during the study period from 01 January 2007 to 31 December 2017, are given in **Table-2**. It is to be noted that sample variables included HCE, SCE, CEE, ROA, ROE, ROS and Firm Size for Indian Pharmaceutical firms. Human Capital Efficiency (HCE), an independent variable, recorded a strong correlation in the first model with profitability performance of pharmaceutical firms during the study period. Another variable, namely, Return On Assets (ROA) as the performance measure, recorded a value of β = 0.329893*, at the significant value of

0.000085, the highest regression coefficient value with IC.It is to be noted that the Capital Employed Efficiency (CEE) recorded $\beta = 0.352214^{*}$ and significant value at 0.000001 during the study period. At the same time, other component of intellectual capital i.e. Structural Capital Efficiency (SCE) did not record any significance under model 1, in which the firm size was also considered. The overall analysis of regression proved the fact that there was negative impact of Return on Assets (ROA), with a value (β = 0.098604), during the study period.

8.2. b) Regression Coefficient for the ROE and IC components for Sample Indian Pharmaceutical Firms

The analysis of regression for sample variables, namely, HCE, SCE, CEE, ROA, ROE, ROS and Firm Size for Indian Pharmaceutical Firms is clearly exhibited in **Table – 3**. It is clear from the Table that structural capital was found to be a strongly significant predictor,with the value of β = 0.248156, at 0.000659 significant level. It is to be noted that Return on Equity (ROE), exercised a positive relationship statistically with an independent variable (IC) in the model - 2, among other models. Another component of intellectual capital i.e. human capital efficiency (HCE) earned the value of β = of 0.300650, with statistical significant level of 0.000145 during the study period. Moreover, Capital Employed Efficiency (CEE) recorded the strong correlation with value (β = 0.465324) at 0.000001 to Return on Equity. Eventually, it can be stated that all the independent variables, namely, Human Capital Efficiency, Structural Capital Efficiency and Capital Employed Efficiency recorded the expected relationship with the Return on Equity (ROE), in respect of sample pharmaceutical firms during the study period.

8.2. c) Regression Coefficient for the ROS and IC components for Sample Indian Pharmaceutical Firms

Table - 4 shows the results of relationship between sample variables, namely, HCE, SCE, CEE, ROA, ROE, ROS and Firm Size, for Indian Pharmaceutical firms during the study period. The intellectual capital recorded significant but negative relationship with profitability measure, namely, Return On Sales (ROS) with the value of β = -0.341958, at 0.000045 significant level. Thus the ROS has become the control factor in model-3 (relationship between ROS and IC). Its correlation with remaining measures of firm performance was not statistically significant. It is to be noted that variables, namely,Human Capital Efficiency (HCE) and Capital Employed Efficiency (CEE) yielded values of β = 0.229827 and β = 0.398708, at 0.005101 and 0.000008 significant level respectively. But the Structural Capital Efficiency (SCE) recorded no relationship with return on sales (ROS), due to absence of significant value.

It is clearly evident from the overall analysis of **Table-4** that Human Capital Efficiency (independent variable) reported strong correlation with all the firm performance measures (ROA, ROE and ROS), as they earned strong statistical significant values under all the three models used in this study. It was found that Capital Employed Efficiency (CEE), as a control variable, obtained statistically significant value, which was considered as the strongest predictor, under all the three models, used for examining the correlation between each intellectual capital component [i.e. Human Capital (HC) and Structural Capital (SC)] and firm performance of selected measures. It was partially confirmed that there was positive correlation between Structural Capital (SC) and Profitability (return on assets) of sample pharmaceutical firms during the study period.

The regression coefficient was strongly significant and statistically positive in its correlation with return on equity (ROE). The hypothesis, relating to the correlation between structural capital and firm performance of select pharmaceutical companies,was somewhat substantiated. The null hypothesis **NH:1**-There is no relationship between intellectual capital performance and the financial performance of sample pharmaceutical firms and the null hypothesis **NH:2**-There is no impact of intellectual capital performance on the financial performance of sample pharmaceutical firms were rejected in this study since components of intellectual capital reported significant association and did exercise impact on the financial performance of sample firms during the study period. It had been debated whether structural capital in the Value Added Intellectual Capital (VAIC) algorithm was deficient (**BiserkaKomnenic** and **Dragana Pokrajic, 2012)**. The Structural Capital Efficiency, a component of Intellectual Capital Efficiency (ICE),did earn lower value than Human Capital Efficiency (HCE), in respect of sample pharmaceutical firms during the study period.

The overall results of this research study clearly provided significant support for the framed hypotheses i.e. there has been positive relationship between intellectual capital and financial performance of sample firms. Human Capital Efficiency (HCE) was found to be the strong predictor, with a great value of regression coefficient. **(Huselid, 1995** and **1996; Minbaeva et al., 2003).** The knowledge and skills of workers, employed in sample pharmaceutical companies, clearly revealed that there was significant contribution by them for the competitive performance of sample companies.

It is generally believed that the sample pharmaceutical companies in India do not stress the importance of the progress of structural capital while compared with foreign companies in developed nations **(Kamath, 2008; Zeghal et al, 2010)**. This would affect the performance of pharmaceutical firms in the long run.

9. Conclusion

The present study could help the corporate executives, policy makers and regulators, to take stern steps against non-disclosure of intellectual capital of the firm. By concentrating on the key indicators, the intellectual capital performance of the firm can be managed. There was non-availability of data on most of the variables and components of VAIC due to non-reporting by companies. The limitations associated with statistical tools, apply to this study also. All the suggestions and findings were based on sample companies only.

10. Scope for Further Research

Multi-industry data set could be carried out,to arrive at generalization.New researchers may contemplate research by employing other proxies (as new variable) to develop fresh models, to measure the intellectual capital as Indian economy is fast evolving into a skill-based one.Further study is required to observe the best influence of intellectual capital of individual pharmaceutical company on their financial performance.

Research could be undertaken on comparison of different sectors within India and comparison of Indian companies with foreign companies. Moreover, the study of this nature may be carried out, using primary data, using views of different levels of employees of sample firms.

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Table-1 : Results of Descriptive Statistics for Sample Variables HCE, SCE, CEE, ROA, ROE, ROS and Firm Size in respect of Indian Pharmaceutical Firms from 1st January 2007 to 31st December 2017

Independent Variables	n	Mean	Median	Minimum	Maximum	SD
HCE	389	1.69796	1.26142	0.043	11.2258	1.06272
SCE	389	0.16178	0.34602	-05.373	0.5162	1.57601
CEE	389	0.27515	0.19576	0.000	1.2964	0.16334
Dependent Variables						
ROA	389	4.94471	1.79506	-6.904	27.5922	7.33674
ROE	389	10.38684	9.52667	-99.743	92.2817	17.35129
ROS	389	67.28235	30.67749	6.234	316.5283	59.55632
Control Variable						
Ln Fsize	389	15.78551	15.73109	14.035	18.3369	0.19645

Source: Collected from https://prowessiq.cmie.com and computed using E-Views 7

Table - 2 : The results of regression analysis showingrelationship between ROA and IC componentsfor Sample Indian Pharmaceutical Firms from 1st January 2007 to 31st December 2017

Model-1	Coefficient β	Standardized regression t-value	p- value
HCE	0.329893*	4.00857	0.000085
SCE	0.109013	1.39067	0.164839
CEE	0.352214*	4.12719	0.000001
Ln Fsize	-0.098604	-1.390156	0.152854
Adj R^2=0.404 **F** (4.87) =16.175 ***Significant value P**<0.00000			

Source: Collected from https://prowessiq.cmie.com and computed using E-Views 7

Table-3
The results of regression analysis showing relationship between ROE and IC components for Sample Indian Pharmaceutical Firms from 1st January 2007 to 31st December 2017

Model-2	Coefficient β	Standardized regression t-value	p-value
HCE	0.300650*	3.650682	0.000145
SCE	0.248156*	3.19584	0.000659
CEE	0.465324*	5.59241	0.000001
Ln Fsize	0.070910	0.94568	0.341849
Adj R^2=0.449 **F** (4.87) =19.287 ***Significant value P**<0.00000			

Source: Collected from https://prowessiq.cmie.com and computed using E-Views 7

Table - 4 : The results of regression analysis showing relationship between ROS and IC components for Sample Indian Pharmaceutical Firms from 1st January 2007 to 31st December 2017

Model-3	Coefficient β	Standardized regression t-value	p- value
HCE	0.0.229827*	2.88927	0.005101
SCE	0.029818	0.26508	0.698145
CEE	0.398708*	4.69865	0.000008
Ln Fsize	-0.341958	-4.17637	0.000045
Adj R^2=0.430 **F** (4.87) =18.138 ***Significant value P**<0.00000			

Source: Collected from https://prowessiq.cmie.com and computed using E-Views 7